

## Choosing an Appropriate Facility Type

The bikeway design options in the Wichita Bicycle Master Plan include bicycle lanes, shared lane markings, paved shoulders, bicycle boulevards, side paths (shared use paths that parallel a roadway) and shared use paths. . The design guidelines for side paths and shared use paths are the same.

The draft 2012 AASHTO Guide for the Development of Bicycle Facilities (draft AASHTO Guide) provides guidance for the best application of these facilities. While they are not strict rules, they provide a good starting point and have been used in the development of Plan recommendations.

### Multiple Facility Types on a Single Corridor

Corridors that effectively accommodate bicycles often combine multiple facility types, each type being used where appropriate. For example, a shared-use path can connect to a bicycle boulevard to create a continuous corridor. A corridor may start with bike lanes, travel along a bike boulevard, and then transition back to bike lanes.<sup>1</sup> Transitions between facilities should be functional, intuitive and as infrequent as possible. A good rule of thumb for designing transitions is that good engineering should invite good use. For example, a path that transitions to an on-street facility should transition a bicyclist to the correct side of the street thereby reducing the possibility of wrong-way riding.

### Guidelines for Choosing an Appropriate Facility

The following guidelines, taken from the draft AASHTO Guide, were used to provide direction for selecting facilities as shown on the Wichita Bicycle Network Map.

Type of bikeway	Best use	Motor vehicle design speed	Traffic volume	Classification or intended use	Other considerations
Paved shoulders	Rural highways that connect town centers and other major attractors	Variable. Typical posted rural highway speeds (generally 40-55 mph)	Variable.	Rural roadways; inter-city highways	Provides more shoulder width for roadway stability. Shoulder width should be dependent on characteristics of the adjacent motor vehicle traffic, i.e. wider shoulders on higher-speed roads

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<sup>1</sup>Draft AASHTO Guide for the Development of Bicycle Facilities. 2012 (24).

Bike lanes	Major roads that provide direct, convenient, quick access to major land uses. Also can be used on collector roads and busy urban streets with slower speeds	Generally, any road where the design speed is more than 25 mph	Variable. Speed differential is Generally a more important factor in the decision to provide bike lanes than traffic volumes	Arterials and collectors intended for major motor vehicle traffic movements	Where motor vehicles are allowed to park adjacent to bike lane, ensure width of bike lane sufficient to reduce probability of conflicts due to opening vehicle doors and other hazards. Analyze intersections to reduce bicyclist/motor vehicle conflicts. Sometimes bike lanes are left “undesigned” (i.e. bicycle symbol and signs are not used) in urban areas as an interim measure
Bike boulevard	Local roads with low volumes and speeds, offering an alternative to, but running parallel to, major roads. Still should offer convenient access to land use destinations	Use where the speed differential between motorists and bicyclists is typically 15 mph or less. Generally, posted limits of 25 mph or less	Generally less than 3,000 vehicles per day	Residential roadways	Typically only an option for gridded street networks. Avoid requiring bicyclists to make frequent stops. Use signs, diverters, and other treatments so that motor vehicle traffic is not attracted from arterials to bike boulevards
Shared lanes (shared lane markings)	Space constrained roads with narrow travel lanes, or road segments upon which bike lanes are not selected due to space constraints or other limitations	Variable. Use where the speed limit is 35 mph or less	Variable. Useful where there is high turnover in on-street parking to prevent crashes with open car doors	Collectors or minor arterials	May be used in conjunction with wide outside lanes. Explore opportunities to provide parallel facilities for less confident bicyclists. Where motor vehicles allowed to park along shared lanes, ensure marking placement reduces potential conflicts with opening car doors
Shared roadways (no special provisions)	Minor roads with low speeds and volumes, where bicycles can share the road with no special provisions	Speed differential between motorists and bicyclists is typically 15 mph or less. Generally, speed limits of 30 mph or less	Generally less than 1,000 vehicles per day.	Neighborhood or local streets	Can provide an alternative to busier streets in a gridded street network. On a non-grid network, may be circuitous or discontinuous

Shared use path: independent corridor	Linear corridors in greenways, or along waterways, highways, active or abandoned rail lines, utility rights-of-way, unused rights-of-way. May be a short connection, such as a pathway connector between two cul-de-sacs, or a longer connection.	n/a	n/a	Provides a separated path for non-motorized users	Analyze intersections to anticipate and mitigate conflicts between path and roadway users. Design path with all users in mind, wide enough to accommodate expected usage. On-road alternatives may be desired for advanced riders who desire a more direct facility that accommodates higher speeds
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### Additional Considerations - Side Path versus On-Street Facility

The Wichita Bicycle Master Plan includes recommendations for on-street bike lanes, shared lane markings, and off-street side paths (shared use paths). In addition to using the general guidance from the draft 2012 AASHTO Guide, the recommendations were developed with the following considerations in mind:

- Arterial continuity: Continuous facility types are recommended along arterials wherever possible to minimize the number of transitions. For example, if an arterial street already has a side path with a missing section, the recommendation will be to complete the missing section with a trail, not an on-road facility.
- Frequency of driveways: Driveways can function as mini intersections. Arterials with a high frequency of commercial driveways are sometimes not the best location to install a side path, especially if there is room for an on-street facility. That said, there are some locations where an off-street facility with multiple driveways is still better than a high volume, high speed, narrow lane roadway.
- Available Space: Side paths are only recommended where there is available right-of-way; and on-street facilities are only recommended where there is available pavement within the improved portion of the right-of-way. The Plan does not recommend moving existing curbs to accommodate on-street bicycle facilities.
- Structures: The channelization on most structures such as bridges, and over and under passes cannot be significantly changed without extensive rehabilitation and expense. Consequently, the decision to install an on- or off-street facility will usually be determined by the existing cross section – i.e. a side path must connect to a side path on the bridge; bike lanes on the street should connect to bike lanes on the bridge. Bicyclists should not be encouraged or expected to cross busy arterials at non-signalized locations to access bridge facilities as would be the case if bicyclists were riding on-street with the flow of traffic and a bicycle facility was provided on only one side of the bridge.
- Directness of Route: Bicyclists will often ignore routes that require multiple turns or add significant distance. In some cases, adding a side path as opposed to an on-street facility allows for more direct connections, especially short trail connections that help avoid busy intersections or other barriers.

